JPRS 82869

16 February 1983

# Worldwide Report

## TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 261

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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No. 261

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# ANOTHER PLEA FOR GOVERNMENT SUPPORT OF COMPUTER INDUSTRY

Canberra THE AUSTRALIAN in English 23 Nov 82 p 29

[Article by Harry Douglas]

[Text] **THIS week I intend to discuss the need for government support in the computer industry.**

Having been involved in high technology industries for many years and having criticised the Government for not doing enough to support these industries, particularly the efforts of Australian entrepreneurs in computers and communications, both hardware and software, I thought it appropriate to summarise what I think should be done.

And I shall quote some examples from around Australia of the worthy efforts of typical Australian entrepreneurs over the past 15 years or so.

In summary, I think there should be five areas of assistance which should be provided:

THE provision of venture capital at favorable rates;

BEEFED up industrial research and development grants;

A CONSCIOUS "Buy Australian" program;

MORAL support from the government as distinct from hand-outs; and.

FURTHER tax concessions, particularly during a new Australian high technology company's first five years of activity.

Some specific support does come from the department administered by David Thompson, Minister for Science and Technology.

Industrial research and development grants as they stand have been useful (but more are needed).

Also his department has been active through the CSIRO and by technology transfer programs.

The department is now working on a comprehensive national science and technology policy.

On the question of tax, the recent increase in the percentage of after-tax income which can be retained in a private company from 70 per cent to 80 per cent is a step in the right direction.

It was only 50 per cent some years ago.

This now enables a new company to accumulate a larger proportion of after-tax profits for expansion and also for a rainy day.

The present Federal Government should be congratulated on its action in this area.

* * *

LET us look now at some examples of entrepreneurs.

In Queensland we saw possibly Australia's most successful entrepreneur, David Hartley, go into receivership this year.

Perhaps his growth rate was too high, perhaps he should not have undertaken manufacture but stuck with what he knew best — software.

Perhaps, also, the Government should not have been so hasty in [illegible] the guarantee of his loan.

It now looks as if the company will come out of receivership as a subsidiary of a New Zealand [illegible] institutional group.

In South Australia we saw former industrial affairs minister, Dean Brown, invite Raytheon to set up in Hendon and ensure support with Government orders, initial low rental on premises and moral support from the Government.

The South Australian Government in particular offers a range of incentives to new industries including establishment grants, export help and cheap industrial estates, including of course Technology Park.

A recent example in South Australia is John Neller and Associates, which went into receivership in March 1981 in spite of having several good software products that it designed and developed in Australia.

It is now encouraging to see that this company is back in action and doing well with, for example, over 80 sales to date of its new Austpay and Colas systems.

## Innovator

In NSW, Mike Roberts is a good example of an entrepreneur who does not know the meaning of giving up.

He set up his company Electronic Control Systems in Sydney in 1976 and is still going strong while retaining 100 per cent equity.

His company has always been a leading innovator and this is reflected in the soon-to-be-released local area network computer designed for office automation.

But, his foray into the American marketplace with the aid of venture capital raised in Palo Alto — the hub of Silicon Valley — is not such a pretty story.

Mike raised $2.5 million of venture capital in California, but saw his fledgling company, ECS Micro Systems Inc, passed into the hands of his equity partners.

Mike has a law suit running to try to get rewards he regards as appropriate to the equity he still holds in his American offshoot.

In Victoria we saw Boyd Munro design one of the best software products that has been available to date on IBM mainframes.

He went overseas to finalise development of this product and after a major international success with versions of his product, Grasp, he is now back in Australia trying to obtain capital for a utility he has developed known as UDC (Universal Disc Control).

So far he has not been able to obtain the necessary capital.

In the ACT Natsemi almost opened a major chip plant which would have had considerable Government support — and Information Electronics, which went public in 1968, has struggled for 14 years despite some limited encouragement from Government in the form of orders.

In Western Australia the Systems Research Institute of Australia appears to be a good example for the rest of Australia.

Many senior public servants in the west believe in the exploitation of technology to raise the efficiency of the public sector — a unique dedication compared with other States.

Their support and that of the then-Premier Court, who launched SRIA in October 1980, got the institute off the ground.

Capital was forthcoming from the Western Australian Government in the form of an interest-free overdraft, but the SRIA management have kept this to a minimum having drawn on only $600 000 to date and have required virtually no drawings in 1982.

The third component of help to the SRIA was the provision of a computer by Univac and a DEC-based Intergraph system— interactive graphics tied to a database.

This latter tool has enabled the institute to successfully develop a land information system and has also helped in ore body analysis.

The institute sponsors and encourages commissioned research as distinct from public research. That is, all projects undertaken have a defined sponsor and a clear objective.

Commissioned research is often requested on a confidential basis by a major commercial enterprise.

## Success

Another key factor in the SRIA success is the choice of management.

Denis Moore, the chairman, is well known as a long-term Western Australian computer pioneer.

John Farrell was initially the full-time director but is now changing over to a part-time board member.

But, in particular, the encouragement of local businessmen who were very active members of the small board has been a further contribution to the success of the SRIA.

Yossie Goldberg is an architect, but is better known as an entrepreneur in a wide range of Western Australian enterprises.

He and Monte Sala, successful inventor of encryption techniques, spent many months with Merrill Lynch and McKinseys international management consultancy, putting together a business plan for design and manufacture of encryption and security devices in Perth aimed at the world market.

Monte Sala's company, Ran Data, is not the only success story coming out of the SRIA.

Ran Data has now received a period contract for encryption devices from the Commonwealth Government and also has orders from a major bank.

SRIA is a good example of Government spending a relatively modest amount of money in an efficient manner.

SRIA has forged a new type of relationship between the public and private sector in high technology.

But across Australia both Federal and State Government money allocated to high technology is not always being spent efficiently.

I am in the process of compiling from various Government sources a list of the money which is being allocated and will endeavor to check its efficiency of utilisation.

□ □ □

ANOTHER successful example of Government involvement is the VLSI project headed by Dr Craig Mudge at the Defence Research Laboratory in South Australia, using Commonwealth funds.

This application of a chip technology is attracting world attention and, if properly developed and marketed in a commercial way, should put Australia on the map in this new technology.

Australia is not necessarily short of successful entrepreneurs, but it has no venture capital to speak of. I do not think the venture capital bank proposed to the Government by the Myers Committee is a suitable solution.

Australians get insufficient encouragement from Government to exploit their ideas.

CSO: 5500/7524

## LOCAL COMPANY TO INITIATE COMPUTER MANUFACTURING

Canberra THE AUSTRALIAN in English 7 Dec 82 p 21

[Article by Douglas Moore]

[Text] COMPUTERVISION Australia intends to start assembling its CAD/CAM (computer aided design and manufacture) systems locally in 1983, and this will include some manufacture of system components.

The company's locally made systems will be sold here and also exported to India, Singapore, Thailand, Indonesia, Malaysia and New Zealand.

The company's three-year goal is to increase the amount of systems manufactured here so as to produce one with a majority of local content.

Managing director of Computervision Australia, Mr Wayne Marron, said: "This move is being made to take up some of the well educated but unemployed Australian electronic graduates.

"It is consistent with the Commonwealth offsets program in that not only assembly and manufacture will be undertaken but Computervision will export software and hardware produced here."

He said the parent company, Computervision Corp, designed and manufactured its own turnkey CAD-CAM system components and its own computer as well.

### Upgrades

"This was a decision taken many years ago to ensure an upgrade path was available to users when required.

"Most recently, the company has released its own 32-bit virtual processor which will have as options Pascal, Fortran 66/77 and PL/1.

"The system exceeds the power of a DEC VAX-11/780 and provides for expansion to up to 96 work stations.

"This system will soon be released in Australia," Mr Marron said.

Computervision Corp announced last week that it had reached an agreement in principle to acquire Cambridge Interactive Systems Ltd (CIS) of Cambridge, England, together with its affiliated marketing organisation, Applied Graphics Systems BV (AGS), of Rotterdam, Holland.

CIS/AGS develops and markets software products and systems for use in CAD/CAM.

Its main product, Medusa, is a three-dimensional mechanical design and modelling software package which also provides two-dimensional drafting capabilities.

Medusa is designed to run on 32-bit virtual memory computers.

CIS has more than 100 installations world-wide of the package, which is marketed directly by CIS/AGS in Europe and by Prime Computer in the United States and the rest of the world.

Computervision intends to operate CIS/AGS separately, and the existing contract between CIS and Prime will stand.

The acquisition is subject to the preparation and signing of a definitive agreement.

Based in Bedford, Massachusetts, Computervision reported revenues of about $US320 million for the 12 months ended September 30, 1982.

Mr Marron said Computervision had over 40 per cent of the CAD/CAM market internationally, and this country had obviously become most important in its international marketing strategy.

Computervision Australia had increased its staff numbers in the past three months and had also enjoyed a prosperous marketing year.

"Recent orders for almost $5 million include the Ammunition Factory, Varian Techtron and ANI in Melbourne, and Otis Elevators in Sydney.

"We have appointed three new support and software engineers in the past three months and are appointing an additional six staff early in the new year," Mr Marron said

These latest staff increases brought the total to 37.

He said Computervision Australia, which has main offices in Sydney, Melbourne and Perth, was expanding its engineering offices in Brisbane and Adelaide to full branch office status in January 1983 and April 1983 respectively.

Users of Computervision systems would meet in Melbourne on December 15-16 for the inaugural meeting of the Computervision Australia Users Group.

Delegates would include three from Singapore, three from New Zealand and the Australian user group of 44

CSO: 5500/7524

## LOCAL FIRM PLANS TO DEVELOP NEW COMPUTER LANGUAGE

Canberra THE AUSTRALIAN in English 23 Nov 82 p 26

[Text] **COMPUTER Manufacture and Design Pty Ltd (CMAD) is believed to be the first local company to announce plans to develop a fourth generation computer language for its products.**

CMAD is one of the few Australian companies which designs and markets Australian software and hardware specifically geared to suit Australian conditions.

The fourth generation language will mean that users only have to define the objective required and the CMAD computer will automatically invoke the systems procedures required to achieve it.

Mr Robert Westcott, the head of CMAD's commercial and systems software division, said his division of the company, based in Melbourne, was developing the package.

He described it as "object oriented" rather than "procedures oriented".

He said organisations embracing fourth generation programming languages would benefit from productivity improvements in the development of computer systems.

Large organisations with various departments would be more easily able to assume responsibility for writing and maintaining individual, divisional programs.

Mr Westcott said it was believed that CMAD was the first local company with plans for a fourth generation computer language.

He said it was typical of CMAD's approach to the development of high-class indigenous technology at which it had been so successful in the past.

He referred to CMAD's receipt last year of the Advance Australia Award for services to indigenous high technology — the only company in Australia to have been presented with the award, he said.

Mr Damien Dunlop, managing director of CMAD, said he was delighted with the achievements of the commercial software division of the company.

### Development

"We always have been pioneers in the development of Australian computer hardware," Mr Dunlop said, "and it's pleasing that Australia's considerable software talent is now being exploited in creative yet practical areas of development."

Mr Westcott said the development of the new language was a long-term but high priority goal of CMAD's software division.

The commercial and systems software division had been set up only six months ago, when a new structure for the company was formalised.

The re-structuring was part of CMAD's desire to offer customers a complete "one-stop computer shop".

CMAD now supplied hardware, systems software and applications software as well as installation, servicing and maintenance, and provided advice and support.

Mr Dunlop said his company now employed over 35 people, in three divisions — sales and marketing, commercial and systems software, and administration and engineering.

The company had branch offices in Sydney, Canberra and Perth.

CMAD's engineering division actually designed and built computer hardware as well as providing servicing and maintenance activities.

Mr Dunlop said that any company in this category "simply cannot afford not to computerise, particularly in the current economic environment".

BCS operated on both the CM22 and CM202.

CMAD had also developed a plain English inquiry language and a word processor facility.

Mr Dunlop said the inquiry language meant everybody in the office or elsewhere in the organisation could use the computer without knowledge of computer languages and other buzzwords.

He said management really appreciated the opportunity to access the machine at any time, and the ability to save money because less qualified staff could operate the system.

The company made a medium-scale, 16-bit minicomputer, the CM202, and a small-scale version called the CM22.

Apart from the fourth generation language, the company was concentrating upon provision of electronic office systems with the recent release of its Business Control System (BCS).

BCS was competitively priced and carried out the whole range of general business activities, including creditors, debtors, invoicing, stock control, sales analysis, general ledger, purchasing, budgeting, order entry, etc.

The BCS, with a price range between $35,000 and $60,000 for hardware and software, was particularly applicable to businesses with an annual turnover over $1 million.

CSO: 5500/7524

## TELECOM DEVELOPMENT PROJECTS IN WESTERN AUSTRALIA NOTED

Perth THE WEST AUSTRALIAN in English 25 Nov 82 News of the North p 12

[Text] **MOST of Telecom's major construction activity in Western Australia is currently centred in the Karratha and Dampier area according to its chairman, Mr Robert Brack.**

He was speaking on a visit to the Pilbara centres after an official tour of the North-West during which he inspected communications developments and was present at the opening of the Port Hedland to Broome-Derby section of the Kimberley microwave system.

Mr Brack was accompanied by Telecom's managing director, Mr Bill Pollock.

Telecom is involved in three major projects centring on Karratha, the biggest being the $40 million Dampier to Perth pipeline communications project.

Outlining the details of this project, Mr Brack said Telecom had entered an agreement with the State Energy Commission of WA to supply and construct a dual communications system along the route of the natural gas pipeline from Dampier to Perth.

The SEC communications system would enable remote supervision and control compressor stations and valves when the pipeline became operational in 1984.

A parallel Telecom system would also be constructed to enhance public network services to the North-West of Western Australia.

Repeater sites, antenna support structures, antennas and primary power plants would be shared with the SEC system.

The second project was the Karratha-Tom Price-Paraburdoo microwave system which was being undertaken to upgrade communications between Karratha and the two mining towns.

Having a capacity of 960 channels, the system was designed to meet the joint requirements of Telecom and Hamersley Iron.

Sixty channels would be devoted to the control of ore trains on the Dampier-Tom Price-Paraburdoo railway system.

It would be commissioned in May, 1983 at a cost of $4 million.

Telecom was also involved in the provision of communications on Burrup Peninsula for the construction and operation phases of the North-West Shelf project.

Over 200 circuits at a cost of $800,000 had already been established between Karratha and the three construction sites at Pearson Cove, King Bay and Withnell Bay on the Burrup Peninsula.

The total number of circuits would double during 1983-84 as the gas pipeline became operational.

Mr Brack said that these projects together with the Kimberley microwave project and the new $10.2 million East-West microwave project which would be completed in October, 1983, combined to make Telecom's trunk network development task in Western Australia unparalleled in the world today.

: 300/7524

AUSTRALIA

## UNIONS WILL OPPOSE PRIVATE ENTERPRISE ROLE IN TELECOM

Canberra THE AUSTRALIAN in English 23 Nov 82 p 2

[Article by Errol Simper]

[Text] **TELECOM** unions will "publicly, politically and industrially" oppose implementation of the Davidson report into telecommunications services, a union leader warned a communications management conference yesterday.

The federal secretary of the 26 000-member Australian Telecommunications Employees Association, Mr Bill Mansfield, told about 90 delegates at the Sydney Masonic Convention Centre that implementation of the report would mean fewer jobs and higher costs.

"We estimate that for most subscribers – particularly those outside the capital cities – and domestic subscribers, the cost of telecommunications will increase significantly," Mr Mansfield said.

The report from the year-long Davidson inquiry, tabled in Federal Parliament on October 28, argues that Telecom Australia should lose its industry monopoly.

The report suggests that the subsidisation of expensive services by lucrative urban services should end, that local calls be charged on a time basis, and that Telecom pay tax.

It also recommends that Telecom establish a separate company to install equipment and wire premises and that private companies be allowed to compete with that company. Telecom's preference for Australian-manufactured material would also be phased out.

The inquiry was headed by Mr J A Davidson, the chairman of Commonwealth Industrial Gases Ltd.

The other members of the committee were Professor Antoni Karbowiak, professor of electrical engineering at the University of NSW, Mr Malcolm King, a former deputy general manager of CSR, and Mr W A Dick, the chairman of Pacific Carpets International.

Mr Mansfield said Telecom unions believed "without exception" the recommendations would lead to:

**AN** increase in costs to many telecommunications users.

**A LOSS** of employment in manufacturing industries.

**A REDUCTION** in standards and increasing subscriber dissatisfaction.

**REJECTION** of the objective of providing a service to the community at costs most people could afford.

**A REDUCTION** in benefits in the conditions of employment currently enjoyed by Telecom staff.

### Achievement

Mr Mansfield said: "When the Davidson Committee proposes changes to Telecom Australia, they are wanting to change an enterprise which has a good record of service and achievement on behalf of the community.

"They are wanting to change an enterprise which has provided most Australians with affordable, high-quality telecommunications services which are acknowleged as being among the best in the world."

The evidence of the threats to universal service in the US and the pricing of the telephone out of the reach of citizens in the rural community can and will be repeated here if the Davidson Report recommendations are implemented."

Mr Mansfield said the recommendation that private companies compete to install telephones and other equipment could lead to "the demise of the fragile Australian electronics industry" in that private firms would simply seek out the cheapest equipment.

Delivering the keynote address, the Parliamentary Secretary to the Prime Minister, Mr Cadman, told the conference that rejection of the Davidson Report was not in the best interests of Telecom employees.

"This nation must draw on its resources of inventive and creative people to ensure that we do not become a backwater, linked to the rest of the world by outmoded, ineffective and expensive communications," Mr Cadman said.

[Editor's Note: In Sydney, THE SYDNEY MORNING HERALD of 25 November 1982, page 2, reported that "Telecom and Australia Post workers throughout Victoria voted yesterday to take industrial action to stop the private takeover of parts of Telecom."]

CSO: 5500/7525

## WA STATE GOVERNMENT SEEKS TO SAVE OTC EARTH TRACKING STATION

Perth THE WEST AUSTRALIAN in English 24 Nov 82 p 46

[Text] THE State Government hopes to avert the threatened winding down of OTC's earth tracking station at Carnarvon.

It plans to ask the Federal Government to update facilities at the station and make it commercially competitive.

A submission is likely to be presented to the Federal Minister for Communications, Mr Brown, when he visits Perth next month.

The Minister for Resources Development, Mr MacKinnon, said yesterday that OTC was run as a private company, but the Federal Government was its major shareholder and was responsible for making investment capital available.

He said that the threat of closure had been prompted by OTC's concern for renewal of a contract from Intelsat—the main source of revenue for Carnarvon.

The contract was coming up for tender at the end of 1981 and only OTC's Ceduna station was technically advanced enough at present to offer a competitive price for the work.

OTC had previously lost contracts to other countries such as Singapore, Malaysia, Indonesia, Thailand and Hong Kong.

Mr MacKinnon said that the future of the Carnarvon station could be affected by other work tenders likely to arise before 1984.

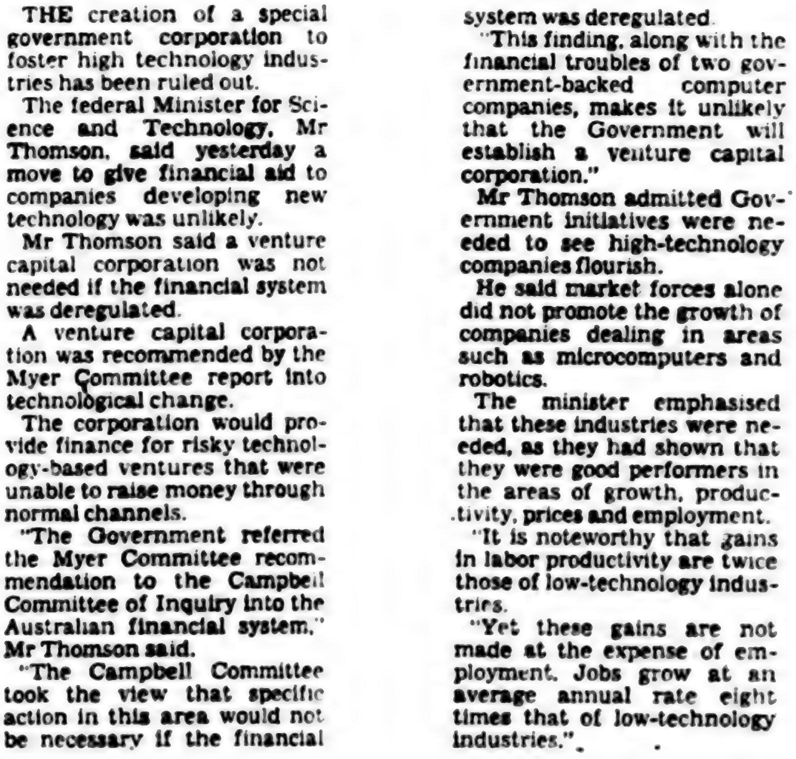
"We will also ask the Federal Government to make sure that WA is given its fair share of offset work from other OTC contracts which have to be completed in Australia," he said.

CSO: 5500/7524

# GOVERNMENT ASSISTANCE FOR HIGH-TECH INDUSTRY SEEN AS UNLIKELY

Canberra THE AUSTRALIAN in English 30 Nov 82 p 4

[Text]



THE creation of a special government corporation to foster high technology industries has been ruled out.

The federal Minister for Science and Technology, Mr Thomson, said yesterday a move to give financial aid to companies developing new technology was unlikely.

Mr Thomson said a venture capital corporation was not needed if the financial system was deregulated.

A venture capital corporation was recommended by the Myer Committee report into technological change.

The corporation would provide finance for risky technology-based ventures that were unable to raise money through normal channels.

"The Government referred the Myer Committee recommendation to the Campbell Committee of Inquiry into the Australian financial system," Mr Thomson said.

"The Campbell Committee took the view that specific action in this area would not be necessary if the financial system was deregulated.

"This finding, along with the financial troubles of two government-backed computer companies, makes it unlikely that the Government will establish a venture capital corporation."

Mr Thomson admitted Government initiatives were needed to see high-technology companies flourish.

He said market forces alone did not promote the growth of companies dealing in areas such as microcomputers and robotics.

The minister emphasised that these industries were needed, as they had shown that they were good performers in the areas of growth, productivity, prices and employment.

"It is noteworthy that gains in labor productivity are twice those of low-technology industries.

"Yet these gains are not made at the expense of employment. Jobs grow at an average annual rate eight times that of low-technology industries."

CSO: 5500/7524

# SYDNEY-AREA RADIO STATION SEEKS TO BROADEN SERVICE

Sydney THE SYDNEY MORNING HERALD in English 8 Dec 82 p 13

[Article by Richard McGregor]

[Text] A battle is looming between Sydney's commercial radio stations and the Katoomba station, 2KA, over its efforts to extend its service in Sydney's outer western area.

2KA has applied in its licence renewal application before the Australian Broadcasting Tribunal to increase the signal strength of its translator station at Emu Plains to allow it to broadcast to the Richmond, Windsor and Mount Druitt areas.

The translator is a secondary transmitter which allows 2KA to broadcast the same programs to other areas on a different frequency. The station can now be heard, through the main transmitter at Katoomba, and the translator, on two points on the dial, 7.80 and 14.80 MHz.

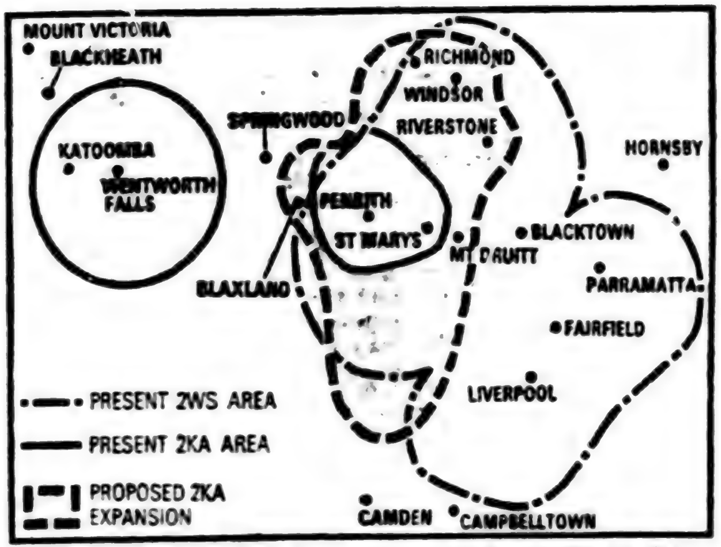
The other stations, headed by 2WS, say the application is an attempt by the company, Boradcast Investments Pty Ltd, to establish for itself a second Sydney station.

The Katoomba station, along with 2UE, 2KO Newcastle, and 2MC Kempsey, is controlled by the Lamb family. It gained control of 2KA in December, 1979.

2WS has been admitted as a party to the application before the tribunal, and 2UW, 2GB and 2MMM have also indicated that they will oppoose any extension of the translator licence.

The tribunal decided yesterday it would not decide the translator question in the course of the licence renewal. Instead, it will hear it next year at a date to be set by the Minister for Communications, Mr Brown.

In its submission to the tribunal, 2KA claims its future commercial viability could be threatened if it was not allowed to increase its audience. The station has made a net loss in the past five years.



**This map, showing the licence area extension sought by 2KA, is based on information in 2KA's submission to the Australian Broadcasting Tribunal.**

While Katoomba and the Blue Mountains are declining markets, 2KA claims that it has already established a "community of interest" in Penrith, and extension of its service in that area would not effect unduly its rivals' audiences.

They say its proposed new area would reach an estimated 286,000 people, an increase of 120,000 on its present service, compared with 2WS's coverage of 1,365,000 people, and 2GB's 2,900,000.

Mr Barry Hall, QC, for 2WS, told the tribunal yesterday that the Broadcasting and Television Act expressly discriminated against translator stations.

Under section 105AD of the Act, the tribunal can refuse to grant a licence to a translator station if its thinks the designated area is receiving "satisfactory reception" from other commercial broadcasters.

CSO: 5500/7525

## BRIEFS

JAPANESE AUSSAT WORK--CANBERRA--Mitsubishi Australia has agreed to undertake offsets work worth more than $5.5 million under its contract to supply major city earth stations for Aussat--the domestic communications satellite. The Minister for Defence Support, Mr Viner, announced yesterday that Mitsubishi would carry out offsets work equal to 37.5 per cent of the manufacturing component which normally would have been performed in Japan. The value of such work under the $30 million contract, signed in October this year, is more than $5.5 million. Mr Viner said the offsets content, with other local content, brought the Australian involvement in work for the supply of the eight earth stations to about 45 per cent. Mitsubishi is to establish production facilities in North Ryde as part of its involvement in the satellite project. The offsets work will include the fabrication of structural parts, the fabrication and assembly of electrical equipment, and the adjustment and testing of mechanical and electronic circuits. [Sydney THE SYDNEY MORNING HERALD in English 2 Dec 82 p 15]

CABLE TV CONCERNS--SYDNEY--The introduction of pay television, possibly as early as next year, would disadvantage millions of Australians, the Australian Consumers' Association said yesterday. The association said it feared commercial operators of pay TV channels would not consider minority groups. It said this at the launching of a campaign by Cable Action, a coalition of groups sponsored by the Consumers' Association with a combined membership of more than a million. The group said there were grave dangers to consumers in the Broadcasting Tribunal's recommendations to the Federal Government on the introduction of cable and pay TV. Under the proposed regulations, there were no guidelines for Australian content in the systems, no provision for community access and inadequate guidelines for children's programs, the group said. [Brisbane THE COURIER-MAIL in English 7 Dec 82 p 14]

CSO: 5500/7525

# DEVELOPMENT OF DOMESTIC RADIO COMMUNICATION REPORTED

Tokyo DENPA JIHO [RADIO REVIEW] in Japanese No 2, 1981 pp 19-21

[Article by Ryusuke Kinoshita, chief of Radio Section, Nippon Telegraph and Telephone Public Corporation: "Domestic Public Radio Communication"]

[Text] Introduction

The number of telephone subscribers in Japan exceeded 37 million by the end of 1979, and an additional increase in the subscription of 1.5 million or so is expected.

In order to handle this increase in the number of telephones smoothly, the Nippon Telegraph and Telephone Public Corporation (NTT) will continue to build telephone exchanges and transmission routes, and to further improve the convenience to the existing 3.7 million subscribers it is deliberately carrying out various projects to further improve the reliability of its communications network and to renovate its equipment.

In order to be able to deal with the diversified demands on communications brought about by the diversified and advanced social life, the NTT is also undertaking the formation of an electric communications network capable of providing advanced service with high efficiency. The 1981 radio communications facility plan was formulated taking these aims into consideration. The outline of this plan will be introduced.

## 1. The Features of the 1981 Radio Communications Facility Plan

The NTT's 1981 facility plan was drafted on the basis of the following conditions.

(1) It will strive for the expansion of basic facilities, including the transmission route, in order to enable its electric communications network to fully demonstrate its capability to deal with an increase in the volume of communication and changes in calls as well as to maintain a balance between demand and supply while the number of telephone subscribers is on the rise and the telephone subscribers are on the move.

(2) It will strive for improvement and consolidation of its facilities as well as for improvement of the reliability of its networks in a number of ways, including introduction of a multiple-route system or a two-route system in order to be able to provide stable, superior services to the existing subscribers.

(3) It will make plans for facilities capable of insuring communications in time of emergency such as a disaster, or facilities which are readily adaptable to an emergency measure after a disaster has struck.

(4) It will aggressively pursue the development and expansion of new services such as mobile communication in response to the demand made by the advanced and diversified society, while positively pursuing the formation of a digital communications network capable of providing with high efficiency various advanced services such as data communication and facsimile transmission which are indispensable in an informationalized society.

The radio communication facility plan will take all this into consideration and provide a plan for a microwave transmission format in order to realize a multiple-route or two-route transmission system. It will strive for the expansion of various types of digital transmission formats for the digital network, and for the expansion of mobile communications services including radio calls, car phones, ship phones, and cordless phones.

## 2. Stationary Communication

On matters related to the 1981 stationary communication project, the NTT will continue to carry out the introduction of a large-capacity microwave format in the 6 GHz, 5 GHz, and 4 GHz bands which was already under way last year. On matters related to the improvement of the existing network, the vacuum tube type microwave equipment will be renovated, and all solid state electronic 4 GHz band microwave equipment will be introduced. Moreover, as a link in the digital communication network construction, the TTPC will strive for the expansion of a 20 GHz band radio PCM format route, while at the same time experimenting with commercial application of the existing high-efficiency digital radio format using the microwave band, and planning the introduction of a new digital format in the 2 GHz and 11 GHz bands. The main projects include the following.

### (1) Large-Capacity Microwave Format

In order to deal with the increase in the telephone traffic outside cities and also to strive for effective utilization and economization of frequencies, the 6 GHz, 5 GHz, and 4 GHz band microwave formats have been expanded and introduced one after another. This project will be continued into 1981 so that the transmission route outside cities can be expanded efficiently.

For the 6 GHz band, the SSB-AM format (tentative name: 6L-A1) as an analog-digital general-purpose large-capacity microwave format, which takes into consideration future conversion into digital operation, is to be introduced, and an experiment in its commercial application will be carried out between Tokyo and Nagoya (the sixth route). This system uses the 6 GHz band and has a capacity of 5,400 CH per system (approximately 130 Mbit/S in the case of a digital signal).

(2) Introduction of 4 GHz Band All Solid State Electronic Microwave Format

Today the 4 GHz band microwave format is used mainly as the transmission route for TV signals, along with the SF-B4 format (vacuum tube type) and SF-B5 format (all solid state electronics except for the traveling wave tube). However, since the SET type high-frequency transistor which can replace the traveling wave tube became practical, stable and high transmitter output can now be obtained in the 4 GHz band also. After 1981, it will be introduced seriously as an all solid state electronic format (SF-B7), and it is to be introduced between Hiroshima and Matsuema.

(3) Digital Radio PCM Format

(a) 20 GHz Band Radio PCM Format

In order to strive for early completion of the digital network, the regional centers (eight centers nationwide, including Tokyo, Nagoya, and Osaka) and the suburbs of the metropolitan areas are to be connected by the digital transmission format. For this purpose, the 20 GHz band radio PCM format has been introduced; this project will be continued into 1981, and the system will be introduced to five sections in addition to the section between Fukushima and Sendai.

(b) 5 GHz Band Microwave Digital Format

A radio digital format has been developed (tentative name: 5L-D1) using the 5 GHz band, which used to be employed by the analog format; it is capable of transmitting 200 Mbit/S (or 2,880 telephone channels, maximum of 6 systems) per system and is also applicable to the long-distance trunk route, so it will be introduced to a section between Sendai and Aomori in 1981; an experiment in its commercial application is also to be carried out. This format involves high-efficiency digital transmission using 16-value orthogonal amplitude modulation. The highest transmission efficiency (5 bit/Hz) of all radio digital formats in the world today is expected to be achieved (for the existing 20 GHz format, it is 5 bit/Hz).

(c) 2 GHz and 11 GHz Band Digital Radio Format

Digitalization is also to be implemented on the transmission sections at a level below the primary outlet (cities on the same level as seat of prefectural office). Analog formats in the 2 GHz band and 11 GHz band have already been introduced to most of these sections.

Thus, digitalization can be efficiently carried out if the existing route is used jointly, including utilization of the existing station buildings and towers. Therefore, 2 GHz and 11 GHz digital formats which can be used jointly on the existing route have been under study, and a fair prospect of their practical application has been confirmed. An experiment in the commercial application of the 2 GHz band format (tentative name: 2S-D4) will be carried out in 1981 at a section between Tanegashima and Daidome, while the 11 GHz format (tentative name: 11S-D2-2) will be experimented with on a section between Nagoya and Yao.

### (·) Installation of Various Types of Disaster Countermeasures Equipment

In order to prevent complete interruption of communications in time of disaster, the introduction of an intracity microwave format and the installation of portable microwave relay equipment and emergency recovery antenna as well as traveling wave tubes have been implemented so far. In 1981, installation of portable radio terminal equipment and TV terminal equipment is planned as a measure of emergency recovery of the stricken microwave transmitting station (based on the assumption of a one-floor fire mainly).

## 3. Mobile Communication

In addition to the conventional 150 MHz band ship phones and 150 MHz radio calls, 250 MHz radio calls and automatic ship phones were introduced in 1978; car phones, in 1979; and cordless phones, in 1980, in order to cope with the advanced and diversified social life. In 1981, these services will be maintained and expanded further. The main projects being planned are as follows.

### (1) Radio Calls

Radio calls were introduced to Tokyo in 1968 using the 150 MHz band, and the area in which this service is available has been expanding gradually ever since. In 1978, new services using the 250 MHz band were introduced, and by the end of 1980, the number of subscribers in the 65 districts nationwide had reached approximately 1.1 million.

In addition to striving for expansion of the business district, the increase in demand in those areas where service has already begun must be dealt with and the engineering work necessary for the transfer from the 150 MHz format to the 250 MHz format is being planned. In 1981, new construction at Naha, the increase of frequencies in four districts including Tokyo, and the expansion of the service area to 22 districts including Utsumiya will be carried out.

### (2) Ship Phones

Since this service was started in 1953 in Tokyo Bay and Osaka Bay using the 150 MHz band and manual format, it has been gradually expanded to cove the entire coastal area. However, in order to improve services and to effectively utilize the frequencies, an automatic format using the 250 MHz band was introduced at the end of March 1979 nationwide simultaneously. Starting in 1981, the additional installation of equipment necessary to cope with the increasing demand and a transition from manual format to automatic format will be implemented.

(3) Car Phones

In response to strong demand for car phones, this service was started in December 1979 within the 22 districts of Tokyo. It was then introduced to Osaka and the peripheral areas of Tokyo in 1980. In 1981, in addition to the necessary preparation for expanding this service to the peripheral areas of Osaka and to Nagoya, expansion of this service nationwide to eight districts including Sapporo and increasing the number of frequencies in the five existing service districts of Tokyo are being planned.

(4) Cordless Phones

The demand for cordless phones may be cited as one of the needs of diversified telephone services. Thus, cordless phones were sold in 1980, and an experiment in their commercial application was carried out within the jurisdiction of the Tokyo, Yokohama, Nagoya, and Osaka telephone offices. In 1981, this service is to be expanded to include seats of the prefectural offices and cities of equivalent size and their vicinities nationwide.

4. Satellite Communication

Satellite communication, which is suitable for long-distance wide-range communication and is less susceptible to surface disaster, is also to be introduced to domestic public communications, and plans are being made to make it suitable for communication in time of disaster, communication with the offshore islands, and establishment of temporary circuit.

Of the earth station facilities that are necessary for satellite communication, the microwave earth station situated on the mainland is to be installed at Inuishi, Hakoyama City, Chiba Prefecture, based on the favorable conditions for wave propagation. In 1981, the necessary preparations for the construction of a microwave route connecting Inuishi and Tokyo will be made.

Conclusion

We have described so far the main projects of the 1981 radio communication facilities plan. Various types of telephone traffic, including the telephone traffic outside cities, are expected to grow smoothly in the future, and the demand on the radio transmission route is expected to remain sound and strong. Moreover, the demand for advanced, economic, and larger digital traffic is expected to further promote the growth of the digital network, and the radio transmission route is expected to take a positive part in this. The demand for diversified and advanced communication is expected to promote further progress in the field of mobile communication. It is our responsibility to develop the new format aggressively, to strive for more efficient utilization of the frequencies taking into account these points, and to provide stable and superior services for the growth of Japan's domestic public radio communication.

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# RADIO USE FOR FIRE DEFENSE, DISASTER PREVENTION DISCUSSED

Tokyo DENPA JIHO [RADIO REVIEW] in Japanese No 2, 1981 pp 33-36

[Article by Shigeichi Mori, chief of Disaster Prevention Section, Fire Defense Board, Ministry of Home Affairs: "Present Status and Future Themes of Fire Defense and Disaster Prevention Radio"]

[Text] Introduction

In Japan, precious lives and valuable property are lost each year to wind and water damage, as well as to earthquake and fire, because of its geographic conditions.

In 1979, the loss due to fire included 2,070 dead, 8,157 wounded, and 136 billion yen in damages. The loss due to wind and water damage in the same year included 197 dead, 1,046 wounded, and 917.8 billion yen in damages.

On the other hand, the high rate of growth experienced by Japan during the 1960's resulted in a greater population concentration in the more advanced industrial areas. Although it did bring about enrichment of national life and improvement of production, it also increased the danger of possible disaster, expanded the possibility of greater damage, and further complicated the problem.

The Great Shimizu tunnel accident that took place on the Joetsu new trunk line, the Golden Street gas explosion accident that occurred in front of the Shizuoka Station, and the Three Mile Island nuclear power plant accident that took place in the United States are still vivid in our memory.

Needless to say, in order to deal with disaster, it is necessary to pay adequate attention to area planning, including strengthening the buildings and making them fire-retardant, and introducing disaster prevention structures into urban design; it is also essential to establish a consolidated disaster-prevention system involving state and local public organizations which will enable various disaster prevention activities--including disaster prevention, emergency countermeasures and recovery from disaster--to be carried out swiftly and surely.

In order to establish such an organic system, a communication and liaison system which collects and transmits information pertaining to disaster prevention, or a nerve system with eyes and ears, is indispensable.

In particular, on 14 December 1978 a law concerning large-scale earthquake special countermeasure was enacted, and on 7 August 1979 earthquake disaster countermeasure reinforcement districts were designated in accordance with this law. The purpose of this measure is to facilitate prediction of large-scale earthquakes and to implement earthquake countermeasures in order to lighten the impact of the disaster. Thus, establishment of a system for transmission of the forecast information is urgent.

In order to establish a system for collecting and transmitting disaster information, the Fire Defense Board has made efforts to consolidate the radio communication network connecting the state with urban and rural prefectures, connecting various prefectures with cities, towns and villages, and connecting various parts of the cities, towns and villages.

We shall describe the present state and the future themes of fire defense and disaster prevention radio communication in Japan.

## 1. Disaster Prevention Radio Connecting the Fire Defense Board With Urban and Rural Prefectures

### (1) Present State of Radio Circuit

This communication network, which shares the multiplex radio facility owned by the Ministry of Construction, is used as the trunk line of the disaster prevention hotline and provides telephone and facsimile circuits between the Fire Defense Board and the 47 urban and rural prefectures of Japan, as shown in Figure 1.

### (2) Reinforcing and Expanding Radio Circuit

### (a) Construction of Additional Circuits

Up until 1979, this communication network, as shown in Figure 2, was made up of relay exchanges installed in each local construction bureau. However, when disasters due to earthquake, wind, or water struck a large area, the collection and transmission of information was significantly restricted by the shortage of available circuits.

Therefore, the Fire Defense Board took action to increase the number of circuits as part of its 1980 budget; it constructed one channel of direct circuit for each urban and rural prefecture.

As a result of this expansion, the simultaneous transmission of earthquake forecast information and reception of the damage report can be carried out swiftly and surely using high-speed facsimile equipment. Now, the information and liaison system is considered to have made a substantial improvement.

### (b) Investigation and Deliberation Concerning Multiple-Routing of Communication Circuits

As can be imagined, communication by existing routes can be interrupted by the destruction of the relay facilities as a result of a very severe earthquake.

Therefore, investigation and deliberation concerning multiple-routing, including use of a communication satellite which does not require any ground relay facility, were carried out in 1980, and this activity is to be continued in 1981.

Moreover, as part of the multiple-routing project, installation of an auxiliary route between the Fire Defense Board and the Ministry of Construction (connection made by cable today) is also being investigated.

## 2. Disaster Prevention Radio Communication Between Prefectures and Cities, Towns, and Villages

Urban and rural prefectures must assist cities, towns and villages under their jurisdiction in carrying out the work and activity related to disaster prevention, and they must also take charge of the general control. Therefore, each prefecture has its own consolidated communication system, which combines a stationary system consisting of a control station in the prefectural office, a local station in the prefectural branch office, and terminal stations in the city, town, and village organizations related to disaster prevention with a mobile system covering all or part of the area of the prefecture.

Construction of the radio communication facilities has been subsidized by the state since 1973, and the construction work has been making rapid progress in recent years. By the end of 1980, as shown in Figure 3, 28 prefectures had already completed the construction, while 10 prefectures were carrying out construction work.

Of the nine prefectures which have not yet begun construction, Fukushima Prefecture will begin construction in 1981, and investigation and preparations are under way in many other prefectures.

From the viewpoint of disaster prevention, installation of disaster prevention radio facilities in all 47 urban and rural prefectures is highly desirable. At the same time, the software such as the application structure must be further consolidated so that the facilities can be utilized to the fullest and the provision of accurate information can be achieved.

## 3. Radio Communication Within the Domain of Cities, Towns and Villages

For this purpose, fire defense and emergency radios are used by the fire defense organizations of cities, towns, and villages, and the disaster prevention administration radios connecting the cities, towns, and villages with their branch organizations and settlements are used.

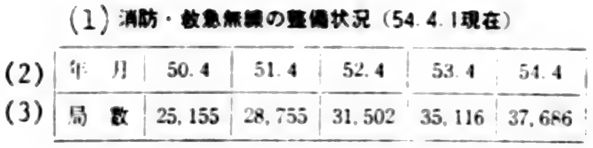
## (1) Fire Defense and Emergency Radio

Fire defense and emergency activities include bringing forces to the site of the disaster immediately after it takes place and also carrying out the rescue work for a short period.

For this purpose, there are base stations located at the fire defense headquarters, and fire stations and mobile stations on the fire engines and ambulances for directing and coordinating activities as well as for collecting information.

The activity has become more complex and the volume has increased significantly in recent years especially, so the fire defense organizations are making every effort to strengthen the fire defense and emergency radio communication in order to be able to deal with the situation.

The equipment status of the fire defense and emergency radio is as shown in Table 1.



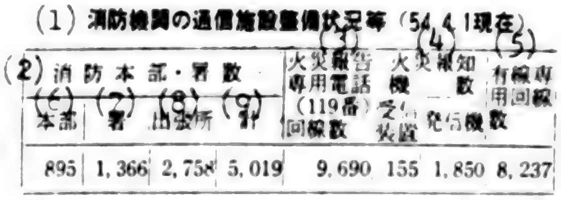
(1) 消防・救急無線の整備状況（54.4.1現在）

| (2) 年　月 | 50.4 | 51.4 | 52.4 | 53.4 | 54.4 |
|---|---|---|---|---|---|
| (3) 局　数 | 25,155 | 28,755 | 31,502 | 35,116 | 37,686 |

Key:

1. Table 1. The equipment status of fire defense and emergency radio (1 April 1979)
2. Year/month
3. Number of stations

In addition, fire defense communication facilities also include a special telephone number (119) for reporting fires, fire alarms, and a special wire circuit for emergency connection between the fire defense organizations. The equipment status of these communication facilities is as shown in Table 2.



(1) 消防機関の通信施設整備状況等（54.4.1現在）

| (2) 消防本部・署数 | | | | (3) 火災報告専用電話（119番）回線数 | (4) 火災報知機数 | | (5) 有線専用回線数 |
|---|---|---|---|---|---|---|---|
| (6) 本部 | (7) 署 | (8) 出張所 | (9) 計 | | 受信装置 | 発信機 | |
| 895 | 1,366 | 2,758 | 5,019 | 9,690 | 155 | 1,850 | 8,237 |

Key:

1. Table 2. The equipment status of the communication facilities of fire defense organizations (1 April 1979)
2. Number of fire defense headquarters and stations
3. Number of special telephone number (119) circuits for reporting fires
4. Number of fire alarms: receiver, transmitter
5. Number of special wire circuits
6. Headquarters
7. Stations
8. Branch offices
9. Total

(2) Fire Defense Administration Radio of Cities, Towns, and Villages

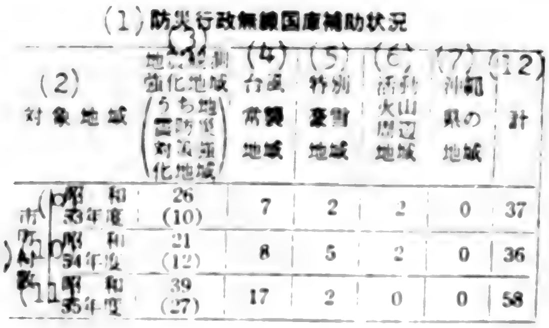
Cities, towns, and villages are at the forefront of fire defense activities. They are responsible for delivering weather forecasts and warnings to the local residents, and for advising on and directing evacuation activities. They are also responsible for implementing disaster prevention, emergency countermeasures, and disaster recovery countermeasures. Also, since the earthquake and fire defense reinforcement districts were designated, consolidation of the transmission system handling forecast information has become an urgent task.

Therefore, construction of the radio facilities connecting cities, towns, and villages with settlements has become an important topic for the future.

In order to facilitate the various fire defense activities in the cities, towns and villages, a state subsidiary system was established in 1978 by the Fire Defense Board for which one-third (or a maximum of 20 million yen per city, town or village) of the equipment cost was to be subsidized by the state treasury. This subsidy applies to the designated areas, including areas of frequent typhoon attack, extraordinarily heavy snowfall, reinforced earthquake observation in the vicinity of active volcano, and Okinawa Prefecture. Thirty-seven cities, towns and villages received assistance in 1978, 36 in 1979, and 58 in 1980.

In view of the importance of the fire defense administration radio of the cities, towns, and villages, the 1981 government budget included 950 million yen in subsidiary fund--a significant increase from the 800 million yen of the previous year--and the limit of subsidiary funds was also increased in part in order to promote early completion of the system.

The equipment status according to subsidiary target areas is as shown in Table 3.



(1) 防災行政無線国庫補助状況

| (2) 対象地域 | | (3) 地震観測強化地域（うち地震防災対策強化地域） | (4) 台風常襲地域 | (5) 特別豪雪地域 | (6) 活動火山周辺地域 | (7) 沖縄県の地域 | (12) 計 |
|---|---|---|---|---|---|---|---|
| (8) 市町村数 | (9) 昭和53年度 | 26<br>(10) | 7 | 2 | 2 | 0 | 37 |
| | (10) 昭和54年度 | 21<br>(12) | 8 | 5 | 2 | 0 | 36 |
| | (11) 昭和55年度 | 39<br>(27) | 17 | 2 | 0 | 0 | 58 |

Key:

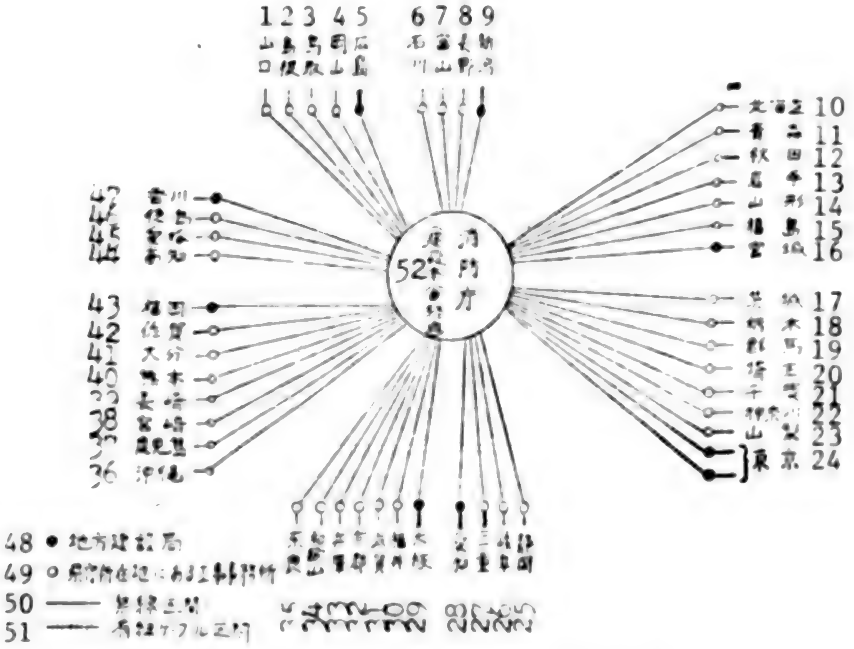
1. Table 3. The status of the national treasury subsidy of the fire defense administration radio
2. Target area
3. Reinforced earthquake observation area (including reinforced earthquake fire defense countermeasure area)

[Key continued on following page]

4. Area of frequent typhoon attack
5. Area of extraordinarily heavy snowfall
6. Area in the vicinity of active volcano
7. Okinawa Prefecture
8. Number of cities, towns, or villages
9. 1978
10. 1979
11. 1980
12. Total

Conclusion

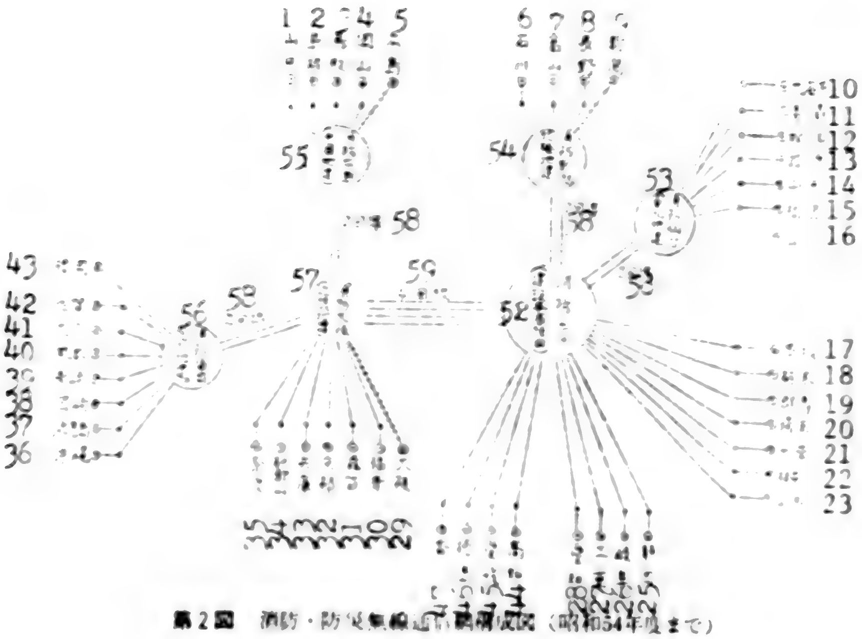
The Fire Defense Board will continue to strive for promotion, reinforcement, and expansion of the disaster prevention radio and fire defense-emergency radio connecting the board with urban and rural prefectures; prefectures with cities, towns, and villages; and cities, towns, and villages with settlements. In view of the recent increase in volume and complexity of the activity, the instruction and cooperation of the concerned government offices on related matters, including frequency assignment, will be greatly appreciated.



第1図 消防・防災無線通信網概要図（昭和55年度以降）

Figure 1. Fire defense and disaster prevention radio communication network diagram (after 1980)

[Key on following page]



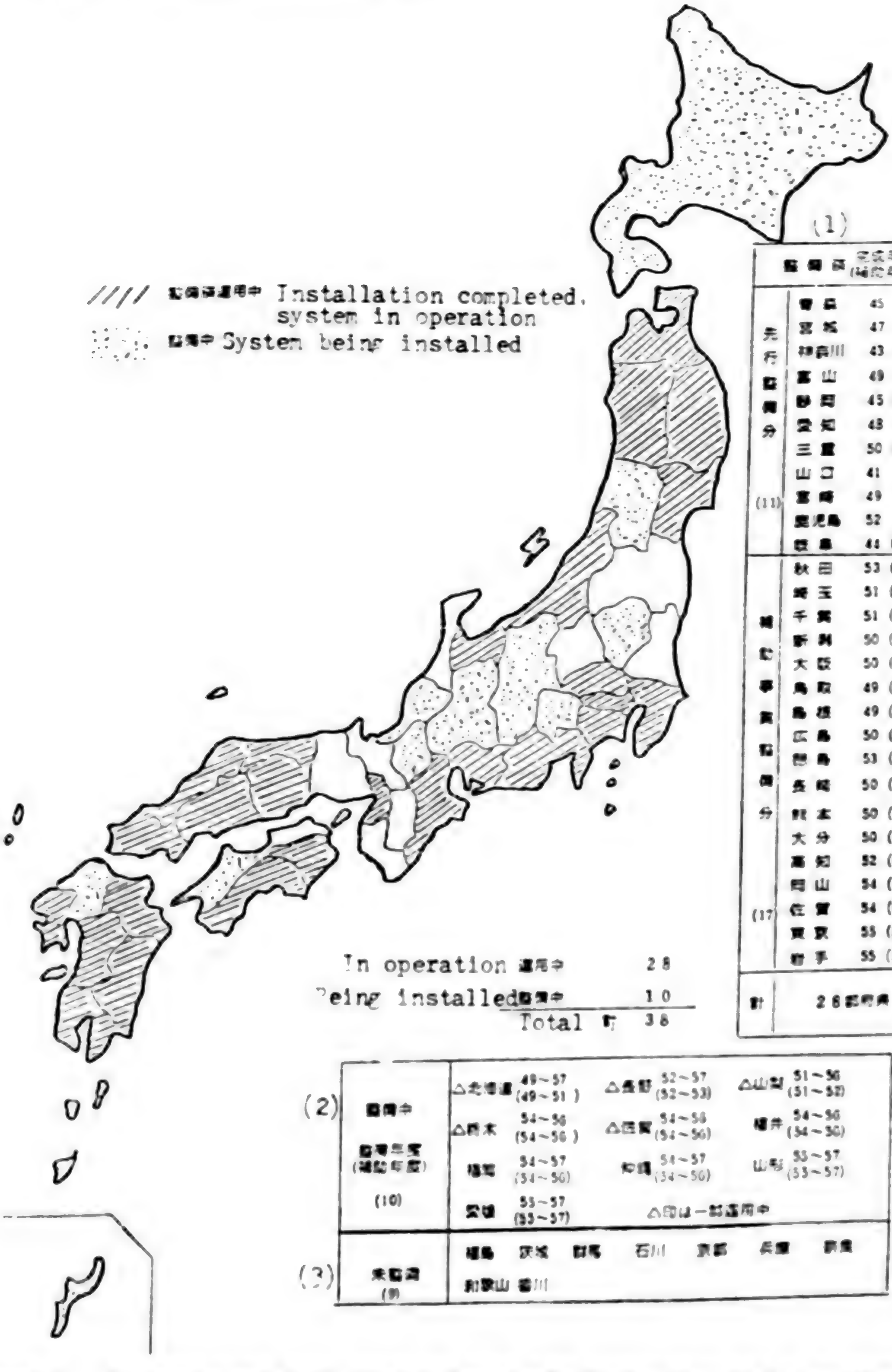
第2図 消防・防災無線[illegible]構成図（昭和54年度まで）

Figure 2. Fire defense and disaster prevention radio communication network diagram (up to 1979)

Key (common to both Figures 1 and 2):

1. Yamaguchi
2. Shimane
3. Tottori
4. Okayama
5. Hiroshima
6. Ishikawa
7. Tomiyama
8. Nagano
9. Niigata
10. Hokkaido
11. Aomori
12. Akita
13. Iwate
14. Yamagata
15. Fukushima
16. Miyagi
17. Ibaragi
18. Tochigi
19. Gunma
20. Saitama
21. Chiba
22. Kanagawa
23. Yamanashi
24. Tokyo
25. Shizuoka
26. Gifu
27. Mie
28. Aichi
29. Osaka
30. Fukui
31. Shiga
32. Kyoto
33. Hyogo
34. Wakayama
35. Nara
36. Okinawa
37. Kagoshima
38. Miyazaki
39. Nagasaki
40. Kumamoto
41. Oita
42. Saga
43. Fukuoka
44. Kochi
45. Ehime
46. Tokushima
47. Kagawa
48. Local construction bureau
49. Construction office at the seat of prefectural office
50. Radio section
51. Wire cable section
52. Fire Defense Board (via Ministry of Construction)
53. Sendai Fire Defense (Tohoku area construction bureau)
54. Niigata Fire Defense (Hokuriku area construction bureau)
55. Hiroshima Fire Defense (Chugoku area construction bureau)
56. Fukuoka Fire Defense (Kyushu area construction bureau)
57. Osaka Fire Defense (Kinki area construction bureau)
58. Two circuits
59. Four circuits

第3図　都道府県消防防災行政無線整備現況一覧



//// 整備済運用中 Installation completed, system in operation

▨ 整備中 System being installed

(1)

| 整備県 | | 完成年度<br>（補助年度） |
|---|---|---|
| 先行整備分<br>(11) | 青森 | 45 |
| | 宮城 | 47 |
| | 神奈川 | 43 |
| | 富山 | 49 |
| | 静岡 | 45 (53～57) |
| | 愛知 | 48 |
| | 三重 | 50 (55～56) |
| | 山口 | 41 |
| | 宮崎 | 49 |
| | 鹿児島 | 52 |
| | 岐阜 | 44 (53～55) |
| 補助事業整備分<br>(17) | 秋田 | 53 (51～53) |
| | 埼玉 | 51 (49～50) |
| | 千葉 | 51 (49～50) |
| | 新潟 | 50 (48～49) |
| | 大阪 | 50 (48～49) |
| | 鳥取 | 49 (48～49) |
| | 島根 | 49 (48～49) |
| | 広島 | 50 (48～49) |
| | 徳島 | 53 (51～52) |
| | 長崎 | 50 (48～49) |
| | 熊本 | 50 (48～49) |
| | 大分 | 50 (48～49) |
| | 高知 | 52 (51～52) |
| | 岡山 | 54 (49～51) |
| | 佐賀 | 54 (52～53) |
| | 東京 | 55 (52～53) |
| | 岩手 | 55 (53～54) |
| 計 | 28都府県 | |

| | | |
|---|---|---|
| In operation 運用中 | 28 |
| Being installed 整備中 | 10 |
| Total 計 | 38 |

| | | | |
|---|---|---|---|
| (2) 整備中<br>整備年度<br>（補助年度）<br>(10) | △北海道 49～57 (49～51) | △長野 52～57 (52～53) | △山梨 51～56 (51～52) |
| | △栃木 54～56 (54～56) | △愛媛 54～56 (54～56) | 福井 54～56 (54～56) |
| | 福岡 54～57 (54～56) | 沖縄 54～57 (54～56) | 山形 55～57 (55～57) |
| | 滋賀 55～57 (55～57) | △印は一部運用中 | |
| (3) 未整備<br>(9) | 福島　茨城　群馬　石川　京都　兵庫　奈良<br>和歌山　香川 | | |

Figure 3. Present status of fire defense administration radio equipment of the urban and rural prefectures of Japan

[Key on following page]

Key:

1. Installation completed: Year completed (years subsidized)

   Advance completion (11): Aomori 1969, Miyagi 1972, Kanagawa 1968, Tomiyama 1974, Shizuoka 1969 (1980-85), Aichi 1973, Mie 1975 (1980-84), Yamaguchi 1966, Miyazaki 1974, Kagoshima 1977, Gifu 1969 (1978-80)

   Completed by subsidy (17): Akita 1978 (1976-78), Saitama 1976 (1974-75), Chiba 1976 (1974-75), Niigata 1975 (1973-74), Osaka 1975 (1973-74), Tottori 1974 (1973-74), Shimane 1974 (1973-74), Hiroshima 1975 (1973-74), Tokushima 1978 (1976-77), Nagasaki 1975 (1973-74), Kumamoto 1975 (1973-74), Oita 1975 (1973-74), Kochi 1977 (1976-77), Okayama 1979 (1974-76), Saga 1979 (1977-78), Tokyo 1980 (1977-78), Iwate 1980 (1978-79)

   A total of 28 urban and rural prefectures
2. System being installed: Years for installation (years subsidized) (10): *Hokkaido 1974-85 (1974-76), *Nagano 1977-85 (1977-78), *Yamanashi 1976-81 (1976-77), *Tochigi 1979-84 (1979-84), *Shiga 1979-84 (1979-84), Fukui 1979-84 (1979-84), Fukuoka 1979-85 (1979-84), Okinawa 1979-85 (1979-84), Yamagata 1980-85 (1980-85), Ehime 1980-85 (1980-85), *indicates system in partial operation.
3. System not yet installed (9): Fukushima, Ibaragi, Gunma, Ishikawa, Kyoto, Hyogo, Nara, Wakayama, Kagawa.

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CSO: 8329/0115

## BRIEFS

FIRST TV LICENSES--PORT MORESBY (AAP)--Papua New Guinea's Media Minister and acting Public Utilities Minister, Mr Boyamo Sali, has issued licences allowing the National Broadcasting Commission to begin television broadcasting. But the NBC's apparent plans to receive and re-broadcast Australia's ABC satellite transmissions have already run into legal problems. The ABC yesterday told the NBC's chairman, Mr Leo Morgan, that it could not legally grant the NBC rights to programs which the ABC had purchased overseas. Although the NBC here has no studios, camera equipment or trained staff, it became clear this week that it was going ahead with pilot television broadcasts, based on the ABC's satellite relay system. The system is designed to beam broadcasts to inland and far-north centres in Australia. Tests in PNG have shown that the ABC satellite beams strongly into the southern portion of the country. By a system of satellite-receiving dishes in Port Moresby, Lae and Mount Hagen, the NBC would be able to receive and re-broadcast such ABC programs. The ABC has told the NBC that it is prepared to give the NBC its own domestically-produced programs 'at cost'. [Brisbane THE COURIER-MAIL in English 27 Nov 82 p 7]

CSO: 5500/7526

## BRIEFS

JILIN MICROWAVE STATION--The Jilin municipal microwave station in Jilin Province completed its construction before 1 January 1983. [Changchun Jilin Provincial Service in Mandarin 2200 GMT 31 Dec 82]

GUIZHOU TELEVISION RELAY STATION--Another high-power television frequency modulation key relay station was recently built in Liuzhi in Guizhou Province and began relaying programs on 1983 new year's day. This relay station relays programs with seven frequency channels and can relay programs to Liupanshui City, Qianxinan Atuonomous Prefecture and Anshun and Bijie prefectures. [HK191455 Guiyang Guizhou Provincial Service in Mandarin 1100 GMT 6 Jan 83]

WEST QINGHAI TELEVISION STATION--The Lenghu Lake area television relay station in Qinghai Province was put into operation on the eve of new year's day. This is the second television relay station in the Qaidam Basin. The main sources for these two relay stations are magnetic video tapes. [HK101526 Xining Qinghai Provincial Service in Mandarin 1100 GMT 3 Jan 83]

CSO: 5500/4116

## PRC PREMIER LAYS FOUNDATION STONE FOR TRANSMISSION STATION

Dar es Salaam DAILY NEWS in English 13 Jan 83 p 3

[Article by Salim Said Salim]

[Excerpt] THE New Radio Tanzania Zanzibar transmission station being built at Dole with a Chinese loan is aimed at consolidating friendship and co-operation between Tanzania and the rest of Africa and the Middle East.

Speaking at a ceremony during which the visiting Chinese Prime Minister, Ndugu Zhao Ziyang, laid the foundation stone for the station, the Zanzibar Minister for Information, Broadcasting and Television, Ndugu Issa Mohamed, said here yesterday the purpose of building the short wave station, whose few antennas would be directed to the Gulf, was similar to that of other mass media institutions in Tanzania — to educate all Tanzanians in order to enable them control their environment.

The Minister said Dole was picked as a suitable location for the project after a detailed survey which involved 17 places in Zanzibar.

He hailed the Chinese Government for its commitment to the project and described it as another testimony of the strong relation, based on mutual respect, between the peoples of the two countries.

The project, financed with a 17.4 million/- Chinese Government soft loan which is supplemented by Zanzibar Government funds to meet local costs, is expected to be ready early next year.

Ndugu Mohamed thanked the Chinese experts who conducted the feasibility studies and those who helped in the initial stages of the construction. He appealed to them to continue with their good spirit of co-operaiton for the success of the project.

The Minister said there were 31 Chinese experts at the moment and the number was expected to increase to 50 by the time the construction and installation of equipment were completed.

CSO: 5500/88

# MICROWAVE COMMUNICATIONS NETWORK PROJECT DESCRIBED

Tokyo DENPA JIHO [RADIO REVIEW] in Japanese No 2, 1981 pp 74-77

[Article by Toru Hasegawa, inspector, Ground Section, Radio Communication Department: "On Investigation of Zambia's Microwave Circuit Network Project"]

[Text] Introduction

Based on a joint statement centered around the economic and technological cooperation between the two countries issued in September last year when President and Mrs Kaunda of the Republic of Zambia visited Japan, we were to carry out an economic feasibility study of Zambia's microwave communications network construction project. The following five persons were dispatched to Zambia for the period from 26 November to 17 December last year as an advance investigation party.

| Name of member | In charge of | Affiliation |
|---|---|---|
| Toru Hasegawa | Overall | Radio Regulatory Bureau<br>Ministry of Posts and Telecommunication |
| Tokonatsu Yano | Circuit project | Ditto |
| Takashi Suzuki | Radio equipment | Nippon Tsushin Kyoryoku |
| Muneo Kuroo | Shipping | Ditto |
| Akio Ito | Business organization | International Cooperative Corporation |

Where is Zambia and what kind of country is it? Even those who received the travel order did not know, because Zambia and Japan do not have an exceptionally close in general. Therefore, we will describe briefly Zambia's general conditions, its communication system conditions including the electric communication administrative organization, and the details of this investigative tour.

The description of Zambia's general condition is based on materials provided by the Japan External Trade Organization (JETRO), lest a description based on our impression of the country gained over a short stay of only 2 weeks might lack objectivity.

## 1. General Conditions

### (1) Geography

Zambia is situated in south-central Africa, between 9 and 18 degrees south latitude, 23 and 34 degrees east longitude, and its area is approximately twice that of Japan. It is bordered in the east by Malawi, on the west by Angola and Namibia, on the south by Mozambique, Botswana and Zimbabwe which gained independence recently, and on the north by Tanzania and Zaire. It is a land-locked country surrounded by eight countries.

Although it is situated in the tropical zone of central Africa, its temperature seldom exceeds 30 degrees Celsius because it is on a plateau approximately 1,500 meters above sea level. The year is divided into three seasons: a dry winter season from May to August, a dry summer season from September to October, and a rainy season from November to April. The temperature ranges between 25 and 32 degrees Celsius with an average relative humidity of approximately 80 percent. Although the conditions may vary somewhat from area to area, the weather remained clear throughout our 2-week stay, even though it was the rainy season, because it rained mostly in the late afternoon or during the night for 1 to 2 hours. However, when it rained, the sky turned black and the rain was often accompanied by thunder. Its intensity far exceeded that of an afternoon shower in Japan.

The languages consist of more than 30 tribal languages of Bantu extraction. However, English is the official language, and it is quite widespread even in the countryside.

The population is approximately 5.7 million (1979), with a rate of increase of approximately 40 percent over a 10-year period and a population density of 7.5 per square kilometer. Its capital, Lusaka, has a population of approximately 720,000; it is the center of politics, economic, and foreign relations. The Ministry of Power, Transportation, and Communications (MPTC), which is the main organization in charge of communications, is also located in Lusaka. The second city, Ndola, has a population of approximately 400,000, and it is situated near the border with Zaire. It is at the center of traffic of the copper belt and is also the city in which the Posts and Telecommunications Corporation (PTC), which is the organization directly in charge of the present investigation project, is located. The third city, Kitwe, has a population of approximately 330,000; it is a center of the copper belt, with two large copper mining companies, NCCM and RCM, located there. It is the hub of industrial and economic activities.

### (2) Politics and Administration

Since the country became independent in October 1964, Kaunda of the UNIP (United National Independence Party) has held the reins of government as its president. A new constitution adopted in 1972 made the UNIP the nation's only political party, and a one-party republic with unicameral National Assembly was formed. The Central Committee of the UNIP is made up of 25 members, and it has branch offices in the central cities. The cabinet consists of 18 ministers together with the president, the prime minister, and the UNIP secretary general.

The political and social conditions appear stable on the surface. However, there is potential danger of antigovernment activities by laborers and students due to the social unrest resulting from inflation and the shortage of consumer goods caused by the failure of President Kaunda's economic policies and one-party dictatorship.

In order to suppress antigovernment movement, a "curfew" was in force during our stay and people were not allowed to go out between 7 pm and 6 am. This order was strictly enforced. It applied not only to all foreigners but also to persons with diplomatic privileges. Although we obtained passes through the diplomatic channel ahead of time so that the curfew would not hinder the progress of our investigative activities, our effort was in vain after all. As a result, we were obliged, on occasion, to sleep on operating tables in a hospital or on sofas in a waiting room on our way home from a tour of investigation to the northern district when we failed to reach our hotel by 7 pm.

### (3) Financial Affairs and Economy

In 1964, soon after independence, the regular expenditure of government finances was approximately 100 million kwacha (1 kwacha = approximately 300 yen). By 1975, as the administrative organization expanded, the expenditure increased nearly four times, to about 390 million kwacha, and the income and expenditure has been kept approximately 200 million kwacha in the red for the past several years. Therefore, the 1979 government budget banned the establishment of new posts in government offices, restricted the use of public vehicles, and reduced the subsidiary funds. Moreover, an organizational reform of the Zambia Industrial and Mining Corporation (ZIMCO) was carried out in February 1979. This organization called ZIMCO was very difficult to understand. There was an enterprise called the Industrial Development Corporation (INDECO) operated by government capital before independence. This organization was in charge of developing an economically independent Zambia, promoting 51 percent capital participation by the government in foreign enterprises, restricting foreign enterprises' profit remittances to 50 percent, and expanding its target field to include almost all industries. The 1969 UNIP general assembly decided to nationalize the copper industry, so ZIMCO was established by the government and INDESCO was placed under its command. Furthermore, in 1975, private ownership of land was banned and a plan to nationalize apartments, newspapers, movies, and the wholesale industry was made public. As a result, ZIMCO became the organization in general charge of all government-related enterprises. It is under the direct control of the president, not the ministers. The PTC, too, was absorbed by ZIMCO in February 1979.

We have described at length an organization which appears to have no direct relation to the mission of this investigative group, because unless the history and the organization of ZIMCO are understood, it will be impossible to understand what organization holds the real power and with whom to negotiate.

The economic relationship between Zambia and Japan include intergovernmental capital cooperation amounting to an approximately 30 billion yen loan made to Zambia so far. This loan includes the construction of a mass media center. In the private sector, Japan's 1979 exports to Zambia amounted to a total of approximately $29 million, while the imports amounted to approximately $240 million--a considerable unfavorable balance of trade. This is because large amounts of copper ore and copper alloys are imported by Japan, even though most of the small trucks seen on the street are made in Japan, whereby one may incorrectly perceive a favorable balance of trade.

In regard to the technical cooperation, by the end of 1978, 55 trainees (International Cooperative Corporation 37, Overseas Technical Personnel Training Association 14, and Nippon ILO 4) were accepted by Japan and 14 experts were dispatched to Zambia by the International Cooperative Corporation.

## 2. Electric Communication System Conditions

### (1) Organization

The government organization in charge of electric communications administration, as indicated before, is the MPTC, and its organizational chart is as shown in Figure 1. The electric communications business is conducted by the PTC under ZIMCO, and the organizational chart of the PTC is as shown in Figure 2.

According to the administrative organization, the PTC is supposed to be supervised and managed by the MPTC, but in reality the MPTC is almost without power, and the power for supervising PTC's business activities is in the hands of the cabinet, which directly supervises ZIMCO. However, the implementation of various projects and activities of the electric communications business, including construction, maintenance, and personnel, are left to the PTC. Therefore, except for paying a courtesy call on the MPTC and the NCDP (National Committee on Development and Planning), all official negotiations concerning this project were carried out between this investigation group and the PTC. The names of the executive members of the PTC who attended the meetings are also included in Figure 2.

Mr NG'oma, director general of the PTC, is an important personage who used to be a politician and who also holds office as the head of the Chamber of Commerce and Industry today. Today he holds tremendous power in both the political and economic fields. Muntali, director of the Electric Communications Bureau is a technical person who is the highest responsible person in the Electric Communications Department both in name and reality. He is pro-Japanese: he visited Japan twice in the past and he spoke halting Japanese once in a while. It is not an overstatement to say that these two persons shape Zambia's electric communications policy. It is these two important persons who decide the course of our project. Mutti, deputy director of the PTC, who is an excellent business manager, is a technical person such as is rarely found in developing nations. Almost all the others who attended the meetings were college-graduate technical personnel who had studied in England or another foreign country. The lack of leaders at the level below these technical personnel is a common phenomenon in many developing countries. Although there are many capable persons among the responsible persons in the field, we were surprised to find so many British, Pakistanis, Indians, and Sri Lankans employed as middle-level managers. To put it in an extreme way, we thought the PTC organization might not function without this foreign technical cadre.

### (2) Equipment and Operation

According to published statistics, the total number of telephones in Zambia at the end of 1980 was 60,462, or 1 per 1,000 population. The conditions in the major cities are as shown in the following table.

| City | Lusaka | Kitwe | Ndola | Kabwe | Chibata |
|---|---|---|---|---|---|
| Number of telephones | 19,939 | 8,968 | 8,229 | 2,688 | 1,320 |
| Population | 720,000 | 330,000 | 400,000 | 290,000 | 200,000 |

The long-distance network consists, in addition to microwave circuits, of shortwave and bare cable circuits. The trunk microwave circuits are as shown in Figure 3.

Telegraph services are available in approximately 70 cities, towns, and villages, of which 14 stations belong to the GENTEX network, and the rest use mainly the shortwave radiotelegraph format. The cities with telex service include Lusaka, Kitwe, and Ndola, and approximately 400 subscribers are connected to the Strowger type telex exchange.

The international communication circuits consist of the satellite communication circuits shown in the table below using an earth station built in 1974. Ground transmission routes are used for connection with Malawi and Zimbabwe.

| Connection partner | England | South Africa | Kenya | Italy | India |
|---|---|---|---|---|---|
| Number of channels | 48 | 24 | 12 | 6 | 4 |

In addition, approximately 8,000 terminals of intracity exchanges are being renovated today; 23,000 new terminals are being added, and construction work to add 3,100 pairs of intracity cables is also under way. They were experiencing a great deal of operational difficulties because not all the equipment made by the U.S. ITT was functioning properly. We had direct experience of the need for upgrading the intracity circuits and exchanges, because we were unable to reach our embassy when we went out into the countryside for a field investigation and we were also unable to maintain contact with other investigation groups.

## 3. Outline of the Investigation

### (1) Objective of Investigation

The objective of this investigation tour was to accurately understand the request of the host country, including the range, method, and timetable of the actual feasibility study that will follow, and to make the necessary arrangements for the host country to reach accommodation, or to sign an agreement on the Scope of Work. In addition, it was necessary to collect as many materials as possible, including maps and data related to this project.

### (2) Range of Investigation

There were three microwave circuits in addition to those originally requested by the PTC to be included in the feasibility study. We decided to include all of them in the range of investigation, taking into consideration Zambia's future communications demand based on its economic development situation as well as its government's strong political desire.

### (3) Time and Period of Investigation

Originally, we considered that the implementation period of the actual feasibility study would be approximately 2 months beginning in May, when the rainy season ends. However, Zambia expressed a strong desire that the actual investigation be started early and the period be shortened, saying that the field study can be carried out even during the rainy season and that it is already in possession of detailed data of the areas concerned obtained from a Swedish consultant and from the Posts and Telecommunications Corporation of West Germany which undertook a field study of almost all areas related to this project.

Therefore, the results of these field studies were checked onsite and were found to be relatively accurate. Moreover, we were able to collect a considerable amount of various other material data from the PTC, including detailed maps of the areas concerned. Therefore, we were able to tell Zambia that the collected data will be taken home and studied carefully in Japan, and only those areas which need to be rechecked or which have not yet been investigated will have to be investigated during the actual investigation period. Therefore, the feasibility study probably can be completed in about 1 month starting in mid-February. As a result, the final report is expected to be submitted by the end of May, 5 months earlier than the end of October as was originally scheduled, and thus satisfying Zambia's desire to a greater extent.

### (4) Relay Circuit for Mass Media Center

Construction of a new mass media center, which is the highest priority project of Zambia's Ministry of Information--investigation work on it was undertaken by a Japanese Government mission in 1972 followed by approval of a loan--is under way today as a joint undertaking of several Japanese firms.

The construction work is expected to be completed by November this year. This center contains 3 TV studios and 22 radio studios, and is more splendid than the local key stations of NHK in Japan. The construction of towers and antennas, as well as that approximately 60 percent of all other buildings, has been completed.

However, there was a big problem in relation to our microwave project. In order to relay the broadcast programs made at the center to the entire nation, it was necessary to hook it up with the PTC's microwave circuit network, and the circuit for this hookup was included in the range of our project. According to this project, it will not be possible to establish a microwave link in November, when the center is completed, so that nationwide broadcasting cannot be realized at that time. Therefore, we strongly advised that that portion of the mass media circuit equipment which would be indispensable in November be separated from this project and constructed by their own capital. Since this problem was an important point of the project, the president and the chief and the deputy chief of the PTC participated in serious discussion with us, but agreement could not be reached until the last minute. In the end, however, each side was able to understand the point of view of the other side sufficiently, and the minutes of the Scope of Work could be signed on the afternoon of 12 December, shortly before our departure.

## Postscript

This investigation tour adequately accomplished the objectives of preliminary investigation, and even entered into the domain of the actual feasibility study, because we were able to collect more data than expected. We believe adequate results have been achieved by this tour.

We owe the success of this investigative mission to the staff of the Japanese Embassy and other concerned persons for their cooperation and assistance. We would like to take this opportunity to express our gratitude.

We are most of all glad that all members of the group came home in good health after exploring remote places of Africa in a strange environment.

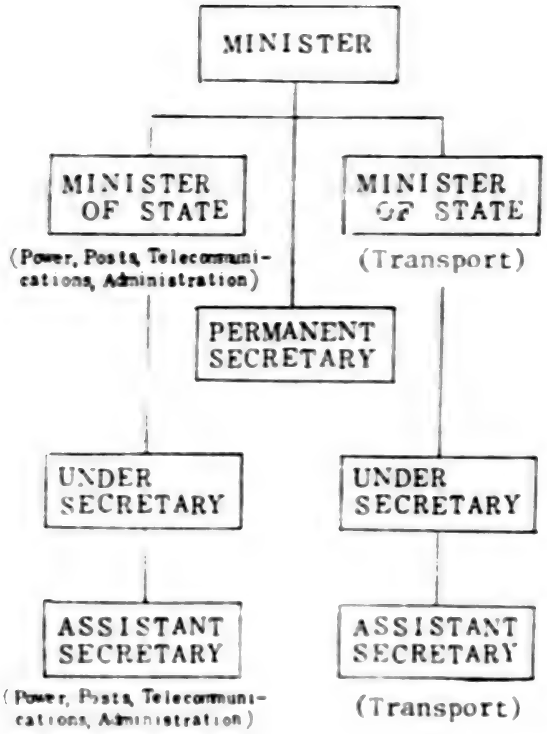

Figure 1. Organizational chart of MPTC

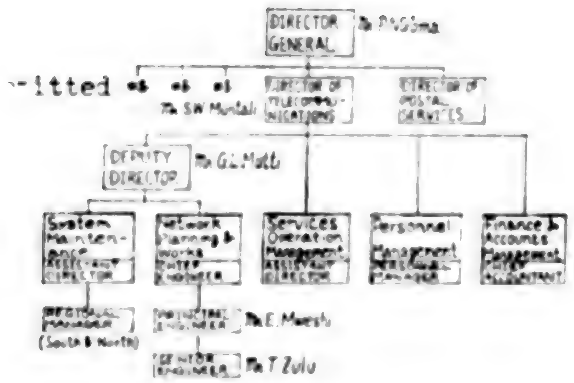

Figure 2. Organizational chart of PTC

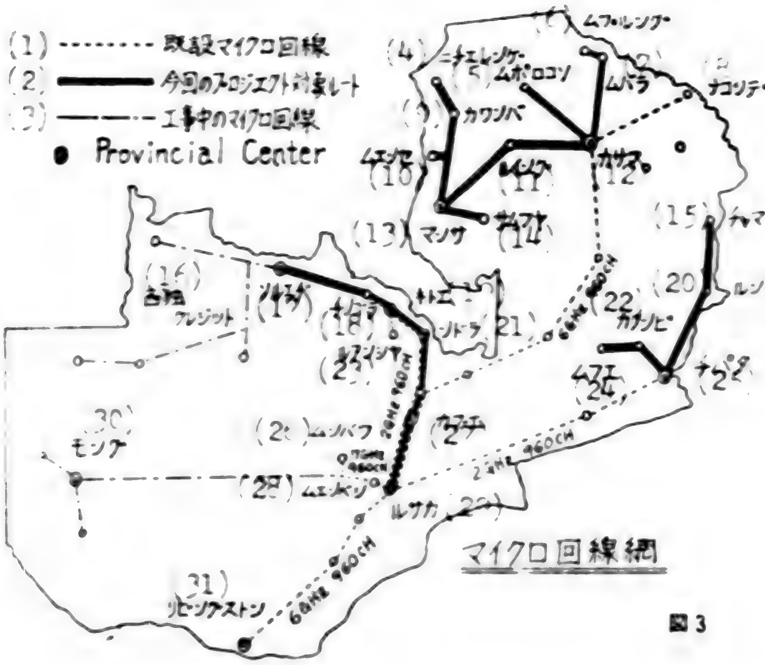

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Figure 3. Microwave circuit network

Key:

1. Existing microwave circuit
2. Object routes of this project
3. Microwave circuit under construction
4. Njerenje
5. Mporokoso
6. Mpulungu
7. Mubala [phonetic]
8. Nakonde
9. Kawanbuwa
10. Mwense
11. Luwingu
12. Kasama
13. Mansa
14. Samfva
15. Chama
16. West German credit
17. Solwezi
18. Chingola
19. Kitwe
20. Lundazi
21. Ndola
22. Kakumbi
23. Luanshya
24. Mufe [phonetic]
25. Chipata
26. Mumbwa
27. Kabwe
28. Muenbeshi
29. Lusaka
30. Mongu
31. Livingston

9113
CSO: 8329/0115

# CROWDED FM BAND CAUSES AIRCRAFT LANDING PROBLEMS

## ISL Band Jammed

Paris LE MONDE in French 14 Dec 82 p 19

[Article by Annick Cojean]

> [Text] Records of local private radio stations as well as the information of the Galabert Commission were officially seized on Monday 13 December. The High Authority for Audiovisual Communications would have started issuing the first authorizations for radio stations this week. Issued in an open meeting and immediately published in the Official Journal, these authorizations will be accompanied by individual specifications indicating, especially, the frequency reserved for the station as well as its required technical characteristics. More than a hundred stations in the provinces should be able to broadcast legally before the end of the year. As for the stations in Paris, which the Galabert Commission has finished examining, a waiting list of more than twenty-five companies has been established; their situation, no doubt, cannot be resolved before the end of January, in spite of the very urgent complaints and problems brought about by the disorder on the airwaves.

"An assigned frequency is a protected frequency," as the minister of communication has said several times, without really stating what action he will take against the offenders. At the time when the frequencies are about to be officially assigned, there are many who wish to remind Mr Georges Fillioud about his duties, hoping for a still possible return a certain harmony on the Parisian FM bands.

Among these is the chief executive officer of Radio-France, who has been alarmed by complaints from the heads of FM public service stations and by thousands of letters from listeners of France-Musique regarding the many instances of interference that their equipment cannot cope with. Clandestine stations which have been broadcasting for a long time, and which are now viewed favorably by the consulting commission, remain buried in the FM guerrilla war. Numerous listeners, many automobile drivers who are not able to listen to the stations of their choice with any degree of consistency, and, now, the Directorate of Aerial Navigation (DNA), very discreet up to now, are raising the alarm to the public authorities.

Landings Without Radio Contact

"When will the government decide to regulate the local radio stations?" This is the question asked by an engineer of the DNA. "When will it take seriously, beyond a simple hearing, not only the complaints of our directorate, but also those of companies such as Air France, Air Inter, TWA, and those of the National Union of Airline Pilots? The meeting with the representatives of the ministers of Transportation, Interior, and the PTT have not resulted in any measures being taken. Is it the political will which is lacking?"

The sudden entry, over a year ago, of a large number of squatters on the FM band, the previous absence of all planning on the national or international level, and the present inexistence of any control over the technical material used by the radio stations are, in fact, the cause of serious interference with aircraft landings at Parisian airports. The FM band is far from ending at the 108 MHz printed on most of the domestic receivers. And even if the 104-108 MHz section, which belongs to the armed forces, is seldom if ever used, the 108-112, 112-118, and 118-136 MHz sections are assigned to civil aviation and any interference on them cannot be tolerated. Wherever it may be, the area near aircraft activities is always a delicate one; any broadcasting station runs the risk of producing secondary radio signals called "nonessential radiation," but it is especially necessary to establish a serious frequency control plan. A lack of this type of planning makes the airwaves uncontrollable, with different kinds of interference and many dangerous situations.

Reserved for the ILS (Instrument Landing System), the 108-112 MHz band provides pilots with all of the information necessary for blind landings. For one year now, frequent interference on this band by stations near 108 MHz has forced the professional airline personnel to improvise totally during the approach of aircraft. Even though the meteorological conditions have always allowed pilots suddenly deprived of certain aspects of radioelectrical landing support to land by sight alone, without any problems, the situation is going to become more serious in winter when the visibility in the Parisian area becomes almost nil.

"Up to now, we have been fantastically lucky," they say at DNA, "but for months now we have been running on borrowed time. If the situation continues, we are heading for catastrophe...."

These are alarming remarks, even if the DNA does refuse to dramatize them. And it is difficult to see how the situation can become better quickly when it now seems that it is only becoming worse and worse. Time has been playing against the establishment of order. It has been playing against the hard-won and always precarious equilibrium; it has been playing against the freedom and the independence of the radio stations. Now time is playing against the government and its freedom of action.

## PTT Suggests Solutions

Paris LE MONDE in French 17 Dec 82 p 42

[Text] "Legal proceedings may be instituted," declares the minister of the PTT.

The disorder which is currently reigning on the FM band is worrying the Directorate of Aerial Navigation (DNA), which has indicated its alarm to the public authorities (LE MONDE of 14 December). The frequent interference from local radio stations operating near the 108 MHz frequency interfere especially with blind landings.

In answer to the anxieties of the DNA, on Wednesday, 14 December, Mr Louis Mexandeau, the minister of the PTT, published a communique in which he declared that administrative measures will be taken to protect radio communications. The text of his communique is as follows:

"Since the month of October, precise directives have been given to sworn agents, placed under my authority, with regard to the measures which they must take to prevent local private radio stations from interfering with radio communications. Each time that complaints are registered, when the station interference has been identified, these agents intervene to stop the parasite emissions. In certain cases, it is a question of defective equipment whose operators are not even aware of the problem, and, in these cases, I must warn them of the grave consequences that their incompetence might have, especially with regard to the safety of aerial transportation.

"The only thing that can be done about the present state of affairs, (that is, the proliferation of tolerated radio stations) is to enforce the law, which means that only stations which have been authorized in accordance with the provisions of the law will be allowed to operate. The forthcoming decisions from the High Authority concerning the local private stations are to be enforced. As for microwave television, where the risks of interference are even greater, a new status quo must not be allowed to develop. The administrative measures that I will have to use to protect radio communication will not prejudice any cases that might be handled through the courts when they find violations of the laws voted by parliament."

## New Frequencies Allocated

Paris LE MONDE in French 23 Dec 82 p 18

[Text] The High Authority for Audiovisual Communications issued the first authorizations for private local radio stations on 21 December. The authorizations were allowed by the law passed 29 July 1982. These seventeen private stations are in the provinces and are left in the same order as that proposed by the Gallabert Commission. They will thus be the first stations in France to broadcast frequency modulation legally for a period of ten years established by the law as the length of the authorizations. The High Authority wanted a term of three years because of the situation's present state of flux. These stations' activities, it specified, will be followed as closely as possible.

The authorized radio stations, in the order proposed by the commission, are Radio Zema, at Saint-Chely-d'Apcher (Lozere); Radio-32, at Auch (Gers); Radio-Couserans, at Saint-Girons (Ariege); Radio-Picou, at Foix (Ariege); Radio-Chabrot, at Cahors (Lot); Radio-Virginie, at Flers (Orne); Radio-Tonique, at Flers (Orne); Radio-Perche, at Mortagne-du-Perche (Orne); Radio-Vicy-Info, at Vichy (Allier); Radio-Logos, at Vicy (Allier); Radio 15, at Aurillac (Cantal); Radio-des-Cimes-de-Lizieux, at Chambon-sur-Lignon (Haute-Loire); Radio-Clermont-Ville, at Clermont Ferrand (Puy-de-Dome); Radio-sur-les-Ondes-de-Clapur, at Clermont-Ferrand (Puy-de Dome); Radio-Chamalieres-Locale, at Chamalieres (Puy-de-Dome; Radio-Frequence-de-Dome); Radio-Riom, at Riom (Puy-de-Dome).

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CSO: 5500/2530

# CII-HB ANNOUNCES REORGANIZATION, INVESTMENT PLANS

## No Profits Before 1986

Paris LE MONDE in French 22 Dec 82 p 24

[Text] On 20 December Mr Jacques Stern, chief executive officer of Machines Bull and CII-HB, and Mr Francis Lorentz, general manager of the company, presented a plan for its reorganization and announced officially that CMB [The Bull Machine Company] has taken control of SEMS [Societe Electrique, Mecanique et Signal (The Electrical, mechanical, and Signals Company)] and the micro-data processing department of the Thomson group.

The goal of the new corporate structure, to be operational 1 January, is the placing of CMB at the head of a group of specialized subsidiary companies comprising four main activity areas. CII-HB itself for data-processing systems; a peripheral subsidiary, SEMS, for mini-data processing, and an administrative subsidiary. This corporate structure should allow better control of the profit and loss areas, decentralization of responsibilities, and facilitation of eventual outside cooperation.

Because of a serious lack of financial effort by the entire conglomerate, it is out of the question for CII-Honeywell Bull to assume the role that public authorities hoped it would play in the development of the electronic subsidiary. This is the statement which the managers made to the press six months after taking control of their positions.

The problem of CII-HB, "with a terrible history behind it, and inheriting an enterprise with no capital of its own and a line of dissimilar products," can be summed up by some shocking figures. In 1983, expenses will take up ten percent of their gross, estimated at nine billion francs. The investments necessary for a simple continuity of present products of the gross. To keep in contact with the market and invest in new activities, they must use about ten percent of their sales in research and development. But CII-HB, using its own resources, can provide financing for only part of these expenses. The requests of the company touch on several points.

First, it is necessary to "plug the holes of 1981-1982--(1.8 billion francs), the enterprise having practically no more capital of its own. Also, it can provide financing for only seven percent of its research. In contrast with other large French or foreign corporations in the electronic sector, CII-HB has no access to those "disguised subsidies" which in all countries consist of military contracts and contracts tied to the telephone system or to large programs such as nuclear projects. For these reasons, the company is requesting that public officials take this handicap into account, and one way or the other, provide financing for research and development expenses above seven percent of its gross (about 300 million francs per year at a rate of ten percent).

Finally, in three years it hopes to reduce expenses by four to ten percent (about 500 million francs per year) by reducing its debt level in some manner. CII-HB will, therefore, need at least two and one-half billion francs in 1983. This figure is a minimum, according to the estimates of the directors of the company, if the enterprise is to have a chance to survive. "We will not show a profit before 1986," warned Mr Stern "[but] the conglomerate must understand that if we collapse, or if, because of a lack of money, we adopt the strategy of falling back to being simply a sales organization selling other's products, France will never again have a place in the data-processing industry.

## Four New Branches

Paris ZERO UN INFORMATIQUE HEBDO in French 27 Dec 82 p 3

[Text] Four Industrial Subsidiaries

The "re-structuring" in light of these monetary questions, seems relatively marginal. The main characteristic is the renovation of the "industrial strength of the Companie des Machines Bull [The Bull Machine Company]."

This company, which, at present, is trying to remodel its shareholding system (see 01 HEBDO No 727), is going to become operational again. At its head, Jacques Stern and Francis Lorentz will be assisted by an executive committee of nine members, the main "deputy directors" mentioned later. The management of research and technology, Francois Salle, and that of personnel and social affairs, Bernard Boussat, will continue to be assigned to the mother company.

The industrial and commercial activities will be distributed among four subsidiaries:

- CII-HB (chief executive officer: Jacques Stern; director general: Francis Lorentz; deputy director for business affairs and marketing: Didier Ruffat; technical deupty director: Jacques Weber); the company's capital is divided between CBM (80.1 percent) and Honeywell (19.9 percent).

This company will produce and market the Mini 6 and the DPS 4, 7, 8 and 88 from its factories at d'Angers and Joue-les-Tours.

- SEMS (deputy director: Francois Michel), of which CMB has just acquired [illegible] percent of the capital, the rest being divided among Thomson, Telemecanique, and IDI. This company will continue to produce and market the

Solar and Mitra, from Crolles, Echirolles, and Louveciennes; and will be assigned the development of future "minis."

- A "peripheral" subsidiary (deputy director: Yves Raynaud), whose capital will belong to CMB one hundred percent (subject to the agreement with Honeywell); this company is none other than the present OEM division of CII-HB, with its factory at Belfort.

- An "administrative" subsidiary (deputy director: Francis Lorentz-interim appointment while awaiting an expected nomination "within a month"). This company's capital will depend on the bargaining taking place with CGE for the recovery of Transac. This company includes an unusual combination, representing DAP (ex-SEMS), RZE, CSI, and GIDE (ex-CII-HB).

In addition, certain special activities could be assigned to the separate entities which are directly linked to the mother company (for example, at an early stage, the "CP 8 card" was given to Herve Nora).

Awaiting the actual creation of the subsidiaries, every arrangement has been made to allow CMB to operate as a company beginning 1 January 1983, using the new organizational plan.

The justification for this reorganization, "which is only a means and not a solution" is to "better measure the best points of the different parts of our activities against other worldwide organizations." But, as has been seen, that is not the real question now.

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# NEW DATA PROCESSING CENTER TO RECEIVE FR 125 BILLION IN 1983

Paris ZERO UN INFORMATIQUE HEBDO in French 20 Dec 82 p 7

[Article by Didier Krajnc: "One Hundred Twenty-Five Million for the World Center"]

> [Excerpts] Established in January 1982 by direction of the President of the Republic, the World Data Processing and Human Resource Center is to be the international crossroads of ideas and knowledge in the field of micro-data processing.

Its recent transfer to the PTT Ministry and the departure of Seymore Papert, the scientific head of the center, as well as the lack of precision in defining its objectives, have tended to give the World Center a fuzzy image, subject to many questions. No doubt, in order to answer these questions, its president, Jean-Jacques Servan-Schreiber, held an information meeting last 14 December.

"Nothing escapes the need for data processing." It was with this act of faith that Jean-Jacques Servan-Schreiber opened the information meeting on the structure and the projects of the World Data Processing and Human Resource Center, of which he is president.

On the initiative of Francois Mitterrand, this center was created a year ago to be the "crossroads of ideas and knowledge in the field of micro-data processing." Assigned, in the beginning, to the Research and Industry Ministry, its worldwide objective is to contribute to the "spreading of data processing information," more especially to motivate the French scientific and industrial community to produce "a personal operating computer for less than 1000 francs" and to organize experiments "of social integration with micro-data processing in France and in the countries of the Third World." Such experiments are now being organized, or soon will be, especially at Marseilles, at Dakar, and in Canada; an agreement has just been signed with Colombia. Its terms require the World Center to contribute materials and staffing for the creation of the Regional Center in Colombia.

The Center is proposing also tp promulgate videodisc technology, which ought to be "a wonderful opportunity for French industry," and to participate in the planning of the Communications House in the Defense Ministry.

These objectives require money: The budget of the World Center was fifty-two billion francs in 1982; it was supposed to be 125 billion francs in 1983, of which 30 MFF was for the experiment in Marseilles, which the Center is only partially financing. The distribution of this budget is not yet known, but the PTT Ministry's part is probably on the order of forty percent.

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